AD-A184 259 PRODUCTION AND SELECTION OF MONOCLONAL ANTIBODIES FOR DETECTION OF SMALL (U) CALIFORNIA UNIV OAKLAND NAVAL BIOSCIENCES LAB A E KARU 1987 UC-NBL-964 1/1

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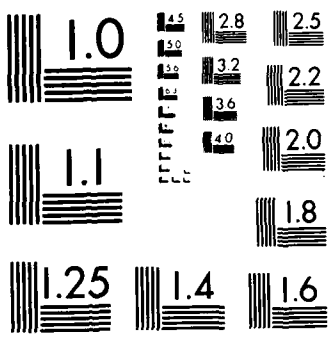

MICROCOPY RESOLUTION TEST CHART
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Invited talk, Symposium on Biotechnology, 101st Annual Meeting, Association of Official Analytical Chemists, San Francisco CA, September 15, 1987

ALEXANDER E. KARU (Hybridoma Center, College of Natural Resources, Univ. of Calif., Berkeley, CA 94720) : Production and Selection of Monoclonal Antibodies for Detection of Small Molecular Weight Compounds.

Production of useful anti-hapten monoclonal antibodies requires integrating carefully chosen immunization, selection, screening, and cell management techniques. This talk will survey principles and methods that many laboratories use but few systematically evaluate. Design and hapten density of the conjugates used for immunizing and screening are critical for successful hybridoma production. Immunization protocols should be set up to avoid causing suppression of hapten-specific responses. Unrelated mouse strains should be immunized because various inbred lines express different immunoglobulin variable-region genes, and other immunoregulatory genes affect response to hapten. Adjuvants can be chosen with respect to their behavior as immunostimulators, solvents, and depots for hapten-carrier complexes. Immune response modifiers may be used to stimulate helper T-cell responses or inhibit suppressor T-cell responses to the hapten, or to promote antibody production in B cells. Use of conditioned media instead of "feeder" cells simplifies hybridoma culture and allows growth at low cell densities. This maximizes detectability and minimizes loss of good clones. The best hybridomas will be very rare, and may differ greatly in affinity and specificity for the immunizing hapten and its analogs. Automated sampling systems and computer-assisted screening are essential for rapid identification of the most useful cell lines. Supported by Office of Naval Research Contract N00014-81-C-0570 and NSF Grant DMB-86-12088.

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